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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/767,374

Applicant(s)

THOMPSON ET AL.

Examiner

DOHM CHANKONG

Art Unit

2152

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 146-177, 179-221, 256-279 and 285-302 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 146-177, 179-221, 256-279, and 285-302 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/27/07
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1> This action is in response to Applicant's amendment, filed 12.12.2007. Claims 146-148, 150-160, 163, 164, 167-169, 172-177, 179-202, 204-219, 256-258, 260-279, and 286-302 are amended. Claim 285 has been canceled. Claims 146-177, 179-221, 256-279, and 285-302 are presented for further examination.

2> This is a final rejection.

Response to Arguments

3> Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection necessitated by Applicant's amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4> Claims 146-177, 179-190, 192-210, 212-221, 256-279, 285, and 287-302 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meier in view of Garrett et al, U.S. Patent Publication No. 2002/0019875 ["Garrett"].

5> It is noted that Meier's filing date is after the priority date of the instant application. However, Meier claims priority to two provisional applications, both of which have a filing date earlier than the instant application's priority date. The 35 U.S.C. 102(e) critical reference date of a U.S. application publications entitled to the benefit of the filing date of a provisional application under 35 U.S.C. 119(e) is the filing date of the provisional application with certain exceptions if the provisional application(s) properly supports the subject matter relied upon to make the rejection in compliance with 35 U.S.C. 112, first paragraph. MPEP §2163(III).

Here, this action primarily relies upon Meier to teach partitioning access networks through the use of VLANs by associating specific VLANs to different service providers. Provisional application 60|190633 properly supports this subject matter [pgs. 7-9, §3.2.1 – VLAN]. Therefore, Meier's patent application is entitled to filing date of the provisional application and qualifies as a proper reference against Applicant's claims.

6> Meier disclosed a VLAN-aware communications system that utilizes VLAN IDs and VLAN tagged frames. In an analogous art, Garrett disclosed enabling multiple service providers to share facilities of an access network infrastructure.

7> Concerning the independent claims, Meier did not explicitly state that each of at least two VLANs is dedicated to a different respective network service provider or that the first access point provides received data to a first network service provider based on one or more

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attributes of the determined first VLAN. However, such a feature was well known in the art at the time of Applicant's invention.

Garrett does explicitly disclose this feature as his system maintains partitioning an access network into multiple VLANs where each VLAN is dedicated to a different respective service provider [0020 - "service provider specific Virtual LANs | 0022 - "assign frames received from each customer on a DOCSIS LAN segment to a VLAN associated with the customer's selected service/service provider]. Garrett also discloses VLAN IDs for each service provider [0024]. Furthermore, Garrett discloses providing received data to a first network service provider based on one or more attributes of the determined first VLAN [0022, 0024 - forwarding a customer's data to the appropriate VLAN based on the VLAN ID| 0025 - "each service provider would receive frames only from its own customers"].

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Meier by adding the ability to have each VLAN correspond to a respective network service provider and to forward received data to an appropriate service provider based on the VLAN's attributes as provided by Garrett. Here the combination satisfies the need for enable multiple service providers to share facilities of an access network infrastructure [0004]. This rationale also applies to those dependent claims utilizing the same combination.

8> Concerning claims 163, 164, 198, 199, 215, and 216, Meier as modified by Garrett did not explicitly state that his system could utilize IEEE 802.1p or enforce a predefined quality of service metric to a VLAN. However, the 802.1p protocol was known in the art at the time of

the applicant's invention and was designed with the purpose of extending the 802.1q protocol. Meier makes use of the 802.1q protocol (see, inter alia, column 2, lines 47-57) and using the 802.1p protocol would be a clear extension of his system since 802.1p was designed for use with the 802.1q. Furthermore, 802.1p is used to define a quality of service for systems like that of Meier's. Thus it would also be a clear extension of Meier's system to enforce a quality of service metric to a VLAN. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Meier by adding the ability to utilize IEEE 802.1p or enforce a predefined quality of service metric to a VLAN. For further detail on the 802.1p protocol, the applicant is directed to the related art cited in a previous action to the Network Dictionary.

9> Some claims will be discussed together. Those claims which are essentially the same except that they set forth the claimed invention as an alternative method, a computer readable memory medium, a network system, or a wireless access point, etc. are rejected under the same rationale applied to the described claim. In addition, citations to Meier will only include the citation, such as (column 6, lines 15-22), while citations to Garrett will explicitly state Garrett, such as (Garrett, 0004).

10> Thereby, the combination of Meier and Garrett discloses:

- «Claims 146, 173, 256, and 289»

A method for providing access to a network system, the method comprising:

a first access point (figure 2, "AP") coupled to the network receiving

system identification information from a portable computing device (figure 2, "STA") in a wireless manner, wherein the identification information includes an identifier for a first virtual local area network (VLAN) from a plurality of possible VLANs (column 6, lines 15-22 | Garrett, 0024) and wherein each of at least two of the plurality of possible VLANs corresponds to a different respective network service provider from among a plurality of network service providers (Garrett 0022-0025);

the first access point determining the first VLAN of the plurality of possible VLANs for the portable computing device after receiving the system identification information (column 10, lines 14-19);

the first access point receiving data from the portable computing device (column 10, lines 45-54); and

the first access point providing the received data to a first network service provider based on the first VLAN determined in said determining (column 10, lines 45-54 and Garrett, 0025).

- «Claims 147, 257, and 290»

The method of claim 146, wherein the providing the received data to a first network service provider based on the determined VLAN comprises determining, as a function of the first VLAN identifier, a first network destination [Garrett, 0022 – use of the VLAN ID to identify the customer's service provider]; and

forwarding the received data to the determined first network destination (column 10, lines 45-54 | Garrett, 0025).

- «Claims 148, 258, and 291»

The method of claim 146, wherein each of a plurality of possible VLANs is associated with a respective network destination of a plurality of possible network destinations (column 6, lines 1-4 | Garrett, Figure 3A «items 351, 352» - each VLAN associated with a service provider);

wherein the first VLAN is associated with a first network destination [column 10 «lines 45-54» | Garrett, 0022];

wherein said providing comprises forwarding the received data to the first network destination using the first VLAN (column 10, lines 45-54 | Garrett, 0025).

- «Claims 149, 259, and 292»

The method of claim 148, wherein the use of different VLANs for different network destinations operates to separate data traffic on the network for each of the network destinations (column 9, lines 20-33).

- «Claims 150, 260, and 293»

The method of claim 148, wherein at least a subset of the network destinations are dedicated to wireless service providers (column 1, lines 37-52 and Garrett, 0025, 0032).

- «Claims 151, 261, and 294»

The method of claim 148, the first access point coupled to the network receiving second system identification information from a second portable computing

device in a wireless manner, wherein the second system identification information indicates a second VLAN of the plurality of possible VLANs (column 9, lines 40-45 | Garrett, 0022, 0025 – different customers having different service providers based on the VLAN ID);

the first access point determining the second VLAN of the plurality of possible VLANs for the second portable computing device from the received second system identification information (column 10, lines 14-19);

the first access point receiving second data from the second portable computing device (column 10, lines 45-47); and

the first access point providing the received second data to a second network service provider based on one or more attributes of the determined second VLAN (column 10, lines 47-54 | Garrett, 0022 – forwarding based on the VLAN ID).

Furthermore, see figure 2 where STA A4 belongs to VLAN A.

- «Claims 152 and 262»

The method of claim 146, further comprising:

the first access point receiving second system identification information from a second portable computing device in a wireless manner, wherein the second system identification information indicates a second VLAN of the plurality of possible VLANs (column 9, lines 40-45 | Garrett, 0022);

the first access point determining the second VLAN of the plurality of possible VLANs from the received the second system identification information (column 10, lines 14-19 | Garrett, 0022);

the first access point receiving second data from the second portable computing device (column 10, lines 45-47); and

the first access point providing the received second data to a second network service provider based on one or more attributes of the determined second VLAN (column 10, lines 47-54 | Garrett, 0022 – forwarding based on the VLAN ID).

Furthermore, see figure 2 where STA B4 belongs to VLAN B but gains access through AP₃ that belongs to VLAN A.

- «Claims 153, 263, and 295»

The method of claim 146, wherein the network system includes a memory medium which stores a data structure comprising a list of VLAN identifier entries and, for each entry, one or more VLAN attributes, for each of the VLANs in the plurality of possible VLANs (column 10, lines 14-28 | Garrett, 0022); and

wherein said determining the first VLAN of the plurality of possible VLANs includes accessing the memory medium and using the received identification information to determine one or more of the first VLAN (column 10, lines 14-19).

- «Claims 154 and 264»

The method of claim 153, wherein said determining one or more of the first VLAN of the plurality of possible VLANs comprises indexing into the data structure

using the VLAN identification information to access one or more attributes of the first VLAN (column 10, lines 14-19 | Garrett, 0022).

- «Claims 155 and 265»

The method of claim 153, wherein the memory medium is contained in the first access point (column 10, lines 14-19).

- «Claims 156, 266, and 296»

The method of claim 153, wherein the one or more VLAN attributes in the data structure further includes one or more associated methods for providing data to the network [column 10 «lines 14-28» | Garrett, 0022]; and

wherein said determining the first VLAN of the plurality of possible VLANs includes accessing the memory medium and using the received system identification information to determine the first VLAN and one of the one or more associated methods for providing data to the network (column 10, lines 14-28).

- «Claims 157, 267, and 297»

The method of claim 146, wherein the system identification information includes an Institute of Electronic Engineers (IEEE) standardized 802.11 comprises a System Identification (SID) (column 7, lines 35-39 | Garrett, 0022).

- «Claims 158 and 268»

The method of claim 157, wherein the System Identification includes one or more of a wireless Ethernet Service Set ID (SSID), an Extended Service Set ID (ESSID), and a Basic Service Set ID (BSSID) (column 7, lines 35-39).

- «Claims 159 and 269»

The method of claim 158, wherein the BSSID includes an IEEE standardized media access control (MAC) ID (by definition of the BSSID).

For BSSID definition/description see previously cited IEEE Std 802.11-1997, specifically section 7.1.3.3.1-7.

- «Claims 160, 270, and 298»

The method of claim 146, wherein said providing the received data to a first network service provider based on one or more attributes of the determined first VLAN further comprises determining an access level for the portable computing device after receiving the system identification information and selectively providing the received data to the first network service provider based on the determined access level (column 10, lines 55-60 and Garrett, 0025).

- «Claims 161, 271, and 299»

The method of claim 146, further comprising: the first access point concurrently using a plurality of radio frequency (RF) channels for communicating with one or more portable computing devices (column 3, lines 1-2).

- «Claims 162 and 272»

The method of claim 161, wherein a first RF channel of the plurality of RF channels and a second RF channel of the plurality of RF channels are non-overlapping RF channels (column 3, lines 3-5).

- «Claim 163»

The method of claim 146, wherein the network is operable to support IEEE 802.1p transmission protocol (obviousness where 802.1p is a clear extension of 802.1q).

- «Claim 164»

The method of claim 146, wherein the network is operable to enforce quality of service (QoS) metric as defined in the Institute of Electronic Engineers (IEEE) 802.1p transmission protocol (obviousness where 802.1p is a clear extension of 802.1q and allows definition of a quality of service metric).

- «Claims 165, 273, and 300»

The method of claim 146, further comprising: the first access point broadcasting a plurality of possible System Identifications (SIDs), wherein each of the plurality of possible SIDs is associated with at least one VLAN of the plurality of possible VLANs (column 8, line 62 through column 9, line 3).

- «Claims 166 and 274»

The method of claim 165, wherein said broadcasting the plurality of possible SIDs includes a beacon format (column 8, line 62 through column 9, line 3).

- «Claims 167, 275, and 302»

The method of claim 146, wherein the first access point is arranged at a known geographic location, the method further comprising: providing network access to the portable computing device using the first determined VLAN (column 10, lines 45-54); and determining a geographic location of the portable computing device; wherein said providing network access comprises selectively providing network

access to the portable computing device based on the determined geographic location of the portable computing device (column 11, line 11 through column 14, line 2).

- «Claims 168, 276, and 301»

The method of claim 146, wherein the first access point is arranged at a known geographic location, the method further comprising: providing network access to the portable computing device using the first determined VLAN (column 10, lines 45-54); wherein said providing network access comprises selectively providing network access to the portable computing device based on the known geographic location of the first access point (column 11, line 11 through column 14, line 2).

- «Claims 169 and 277»

The method of claim 146, wherein the first access point is arranged at a known geographic location, the method further comprising: providing network access to the portable computing device using the first determined VLAN (column 10, lines 45-54); and determining an access level for the portable computing device from the received system identification information (column 10, lines 55-60); wherein said providing network access comprises selectively providing network access to the portable computing device based on the known geographic location of the first access point and the determined access level (column 11, line 11 through column 14, line 2).

- «Claims 170 and 278»

The method of claim 146, further comprising: assigning a wireless communication

channel for communication between the first access point and the portable computing device (column 3, lines 1-5).

- «Claim 171»

The method of claim 170, wherein the first access point assigns the wireless communication channel for communication between the first access point and the portable computing device (column 10, lines 14-28).

- «Claims 172 and 279»

The method of claim 170, wherein said assigning comprises channel based on the system identification information assigning the wireless communication received from the portable computing device (column 10, lines 14-28).

- «Claim 174»

A apparatus to implement an access point, the apparatus comprising: a wireless access point coupled to a network (figure 2, "AP"), wherein the first wireless access point is operable to wirelessly communicate with a portable computing device (figure 2, "STA"), wherein the first wireless access point is operable to receive system identification information from the portable computing device including an identifier of a VLAN from among a plurality of possible VLANs (column 6, lines 15-22); wherein each of at least two of the plurality of possible VLANs corresponds to a different respective network service provider from among a plurality of network service providers (Garrett, 0022); wherein the first wireless access point is operable to determine the identifier of the VLAN indicated in the system identification information, wherein the determined

VLAN corresponds to a first network service provider (column 10, lines 14-19 and Garrett, 0022); and wherein the first wireless access point is operable to select the first network service provider from among the plurality of possible network service providers based on the determined VLAN to provide network access to the portable computing device (column 10, lines 45-54 and Garrett, 0022).

- «Claim 175»

The apparatus of claim 174, wherein each of the plurality of possible VLANs is associated with to a respective network destination of a plurality of possible network destinations (column 6, lines 1-4); wherein the first VLAN is associated with a first network destination and wherein the apparatus is operable to:

receive data from the portable computing device,
determine, as a function of the first VLAN identifier, the first network destination; and
forward the received data to the determined first network destination using the first VLAN (column 10, lines 45-54).

- «Claim 176»

The apparatus of claim 175, wherein the use of different VLANs for different network destinations operates to separate data traffic on the network for each of the network destinations (column 9, lines 20-33).

- «Claim 177»

A system comprising:

a wireless access point operable to communicate with a portable computing device in a wireless fashion (figure 2), wherein the wireless access point is configured to receive system identification information from the portable computing device indicating a VLAN from among a plurality of possible VLANs (column 6, lines 15-22);

wherein the access point is operable to determine the VLAN indicated by the system identification information (column 10, lines 14-19);

wherein the wireless access point is operable to provide network access to the portable computing device through the determined VLAN (column 10, lines 45-54);

wherein at least two of the plurality of possible VLANs is associated with a different respective network service provider from among a plurality of network service providers (Garrett 0022-0025);

and

wherein the access point is operable to maintain an association between each of the at least two of the plurality of possible VLANs and the respective network provider from among a plurality of network service providers (Garrett 0022).

- «Claims 179 and 285»

The system of claim 177, wherein network access is provided to the portable computing device through the first access point to the respective network provider (Garrett 0022).

- «Claim 180»

The system of claim 177, wherein the system identification information includes

an Institute of Electronic Engineers standardized 801.11 System Identification (SID) of a plurality of possible SIDs; and wherein the first access point is operable to recognize the SID of the plurality of possible SIDs, wherein each of the recognized plurality of possible SIDs is associated with a respective one of the plurality of possible VLANs (column 7, lines 35-39).

- «Claim 181»

The system of claim 180, wherein at least a subset of the plurality of possible SIDs includes one or more of a Service Set ID (SSID), an Extended Service Set ID (ESSID), and a Basic Service Set ID (BSSID) (column 7, lines 35-39).

- «Claim 182»

The system of claim 180, further operable to maintain an association between each one of a plurality of possible SIDs and a respective one of the plurality of the plurality of possible VLANs (column 10, lines 14-28).

- «Claim 183»

The system of claim 180, wherein each member of a non-empty subset of the plurality of possible VLANs is associated with a respective service provider (Garrett 0022); and wherein the first access point is further operable to maintain an association between each member of the non-empty subset of the plurality of possible SIDs and a plurality of active subscribers of the associated service provider (column 7, lines 35-39 and Garrett, 0022).

- «Claim 184»

The system of claim 180, further operable to broadcast a non-empty subset of the

plurality of possible SIDs, wherein each of the plurality of possible SIDs is associated with a respective one of the plurality of VLANs (column 8, line 62 through column 9, line 3).

- «Claim 185»

The system of claim 184, further operable to use a beacon format to broadcast the non-empty subset of the plurality of possible SIDs (column 8, line 62 through column 9, line 3).

- «Claim 186»

The system of claim 184, wherein the non-empty least a subset of the plurality of possible SIDs includes one or more of a Service Set ID (SSID), an Extended Service Set ID (ESSID), and a Basic Service Set ID (BSSID) (column 7, lines 35-39).

- «Claim 187»

The network system of claim 177, further operative to provide a plurality of virtual access points, wherein each virtual access point of the plurality of virtual access points corresponds to one of the plurality of possible VLANs, and wherein each virtual access point of the plurality of virtual access points provides network access services to one or more portable computing devices through the corresponding VLAN (column 9, lines 58-64).

- «Claim 188»

The system of claim 187, wherein each virtual access point of the plurality of virtual access points provides access point functionality, wherein each virtual

access point of the plurality of virtual access points is operable to simulate a distinct physical access point to the portable computing device (column 9, lines 58-64).

- «Claim 189»

The system of claim 187, wherein each virtual access point of the plurality of virtual access points executes a wireless transmission protocol stack (by definition of 802.11 protocol referred to at column 2, lines 14-17, inter alia).

- «Claim 190»

The system of claim 189, wherein the wireless transmission protocol stack comprises an Institute of Electronic Engineers IEEE standardized 802.11 protocol stack (by definition of 802.11 protocol referred to at column 2, lines 14-17, inter alia).

- «Claim 192»

The system of claim 177, further comprising: a memory medium coupled to the network which stores a data structure comprising a list of system identification entries and for each entry, a respective VLAN associated with the system identification (column 10, lines 14-28); and wherein, in said maintaining an association between a VLAN and a system identification, the system is further operable to access the memory medium and use the received identification information to determine the VLAN (column 10, lines 14-19).

- «Claim 193»

The system of claim 192, wherein the memory medium is contained in the plurality of access point (column 10, lines 14-19).

- «Claim 194»

The system of claim 177, wherein the access point is maintained by a first network service provider (Garrett, 0022); and wherein the VLAN identification information is associated with a second network service provider (Garrett, 0022, 0025).

- «Claim 195»

The system of claim 177, wherein the access point is arranged at known location in a geographic region, wherein the access point is operable to provide geographic location information indicating a known geographic location of the portable computing device; and wherein network access is selectively provided to the portable computing device based on the known geographic location of the portable computing device (column 11, line 11 through column 14, line 2).

- «Claim 196»

The system of claim 177, wherein the first access point is operable to assign a wireless communication channel for communication between the first access point and the portable computing device (column 10, lines 14-28).

- «Claim 197»

The system of claim 177, wherein the access point are operable to assign a wireless communication channel based on one or more of: the system identification

information received from the portable computing device, and a determined access level for the portable computing device, wherein said access level is determined from the system identification information (column 10, lines 14-28).

- «Claim 198»

The system of claim 177, wherein one or more of the plurality access points are operable to assign an Institute of Electronic Engineers (IEEE) standardized quality of service (QoS) based on one or more of: the system identification information received from the portable computing device, and a determined access level for the portable computing device, wherein said access level is determined from the identification information (obviousness where 802.1p is a clear extension of 802.1q and allows definition of a quality of service metric).

- «Claim 199»

The network system of claim 177, wherein the network is operable to support the Institute of Electronic Engineers IEEE standardized transmission protocol commonly known as 802. 1p (obviousness where 802.1p is a clear extension of 802.11q).

- «Claim 200»

The system of claim 177, wherein the first access point is operable to concurrently use a plurality of radio frequency (RF) channels for communicating with one or more portable computing devices (column 3, lines 1-2).

- «Claim 201»

The system of claim 200, wherein a first RF channel of the plurality of RF

channels and a second RF channel of the plurality of RF channels are non-overlapping RF channels (column 3, lines 3-5).

- «Claim 202»

A method for operating a network system, the method comprising:
receiving, in a first access point (figure 2, "AP") coupled to a network, system identification information transmitted from a portable computing device (figure 2, "STA") in a Wireless manner (column 6, lines 15-17);

determining, in the first access point a VLAN tag corresponding to the system identification information (column 4, lines 61-65 and column 9, lines 40-45);

providing the VLAN tag and the data received from the portable computing device to the network (column 10, lines 45-54 and Garrett, 0022);

maintaining an association between the VLAN tag and a respective network provider from among the plurality of network providers (Garrett, 0022, 0025); and

routing the data received from the portable computing device to the respective network provider associated with the determined VLAN tag from among the plurality of network providers (column 10, lines 45-54 and Garrett, 0022).

- «Claim 203»

The method of claim 202, wherein the first access point and the portable computing device communicate using wireless Ethernet (by definition of 802.11 protocol referred to at column 2, lines 14-17, inter alia).

- «Claim 204»

The method of claim 202, wherein the identification information comprises an

Institute of Electronic Engineers (IEEE) standardized 802.11 System Identification (column 7, lines 35-39).

- «Claim 205»

The method of claim 204, wherein the System Identification comprises one or more of a wireless Ethernet Service Set Identification (SSID), an Extended Service Set identification (ESSID), and a Basic Service Set identification (BSSID) (column 7, lines 35-39).

- «Claim 206»

The method of claim 202, wherein said associating comprises accessing a memory medium coupled to the network to determine one or more attributes to associate with the determined VLAN tag corresponding to the identification information (column 10, lines 14-28).

- «Claim 207»

The method of claim 206, wherein the memory medium comprises a data structure which includes a list of VLAN identification information entries and a corresponding list of VLAN attributes (column 10, lines 14-28).

- «Claim 208»

The method of claim 207, wherein said determining comprises using the identification information to index into the data structure using the identification information to determine the VLAN attributes (column 10, lines 14-19).

- «Claim 209»

The method of claim 206, wherein the first access point contains the memory medium (column 10, lines 14-19).

- «Claim 210»

The method of claim 202, wherein the identification information includes an Institute of Electronic Engineers (IEEE) standardized media access control (MAC) ID (by definition of the BSSID).

For BSSID definition/description see previously cited IEEE Std 802.11-1997, specifically section 7.1.3.3.1-7.

- «Claim 212»

The method of claim 202, further comprising: the first access point receiving second system identification information from a second portable computing device in a wireless manner (column 9, lines 40-45); the first access point determining a second VLAN tag corresponding to the second system identification information (column 10, lines 14-19), wherein the second VLAN tag is associated with a second network provider (Garrett 0022); the first access point receiving second data from the second portable computing device in a wireless manner (column 10, lines 45-47); and the first access point providing the second VLAN tag and the second data received from the second portable computing device to the network, wherein the second VLAN tag is usable by the network to route the second data received from the second portable computing device based on the second network provider (column 10, lines 47-54 and Garrett 0022); wherein

the identification information is different from the second identification information; and wherein the first network provider is different from the second network provider (column 10, lines 14-28 and Garrett, 0022, 0025).

Furthermore, see figure 2 where STA B4 belongs to VLAN B but gains access through AP₃ that belongs to VLAN A.

- «Claim 213»

The method of claim 212, wherein the second identification information comprises an Institute of Electronic Engineers (IEEE) standardized 802.11 System Identification (column 7, lines 35-39).

- «Claim 214»

The method of claim 213, wherein the System Identification comprises one or more of a wireless Ethernet Service Set Identification (SSID), an Extended Service Set Identification (ESSID), and a Basic Service Set Identification (BSSID) (column 7, lines 35-39).

- «Claim 215»

The method of claim 202, further comprising: determining a quality of service metric as defined in the Institute of Electronic Engineers 802.1p transmission protocol based on the received system identification information; wherein said providing the VLAN tag and the data received from the portable computing device to the network is based on the determined QoS metric (obviousness where 802.1p is a clear extension of 802.1q and allows definition of a quality of service metric).

- «Claim 216»

The method of claim 202, wherein the VLAN tag is associated with a Quality of Service (QoS) metric as defined in the Institute of Electronic Engineers (IEEE) 802.1p transmission protocol; and wherein the network is operable to route the data received from the portable computing device to a network destination based on the quality of service indicated by the QoS metric (obviousness where 802.1p is a clear extension of 802.1q and allows definition of a quality of service metric).

- «Claim 217»

The method of claim 202, further comprising: transmitting a request for access to a remote host for the network service provider identified as a potential recipient of the data from the portable computing device; receiving, from the remote host, a response to the request for access; and selectively forwarding the data to the portable computing device based on the response (column 10, lines 45-54 | Garrett 0023).

- «Claim 218»

The method of claim 202, wherein the first access point is arranged at a known geographic location, the method further comprising: the first access point providing geographic location information indicating a known geographic location of the portable computing device; transmitting a request for access to a remote host for the network service provider identified as a potential recipient of the data from the portable computing device including the geographic location of the portable computing device [column 11 «line 11» to column 14 «line 2» | Garrett

0022-0025]; receiving, from the remote host, a response to the request for access; and selectively providing network access to the portable computing device; wherein said providing network access comprises selectively providing network access to the portable computing device based on the response (column 11, line 11 through column 14, line 2 | Garrett, 0022).

- «Claim 219»

The method of claim 202, wherein the first access point is arranged at a known geographic location, the method further comprising: the first access point providing geographic location information indicating a known geographic location of the portable computing device; determining an access level for the portable computing device after receiving the system identification information [Garrett 0018 – authentication], transmitting a request for access to a remote host for the network service provider identified as a potential recipient of the data from the portable computing device including the geographic location of the portable computing device and the determined access level [column 10 «lines 45-54» | Garrett 0022]; receiving from the remote host a response to the request for access (column 10, lines 45-54); and wherein said providing network access comprises selectively providing network access to the portable computing device based on the response (column 11, line 11 through column 14, line 2).

- «Claim 220»

The method of claim 202, further comprising: the first access point concurrently

using a plurality of radio frequency (RF) channels for communicating with one or more portable computing devices (column 3, lines 1-2).

- «Claim 221»

The method of claim 220, wherein a first RF channel of the plurality of RF channels and a second RF channel of the plurality of RF channels are non-overlapping RF channels (column 3, lines 3-5).

- «Claim 287»

A system, comprising:

a wireless access point operable to communicate with a portable computing device in a wireless fashion (figure 2), wherein the wireless access point is configured to receive system identification information from the portable computing device including an identifier for a VLAN of a plurality of possible VLANs (column 6, lines 15-22);

wherein the wireless access point is operable to determine the VLAN indicated by the system identification information (column 10, lines 14-19);

wherein the wireless access point is operable to provide network access to the portable computing device through a service provider associated with the determined VLAN (column 10, lines 45-54);

wherein the system identification information includes an Institute of Electronic standardized 802.11 System Identification (SID) parameter to distinguish the SID from among a plurality of possible SIDs; and wherein the wireless access point is operable to recognize each SID of the plurality of possible

SIDs, wherein each of the plurality of possible SIDs is identified with a respective one of the plurality of possible VLANs (column 7, lines 35-39);

wherein each of at least two of the plurality of possible VLANs is associated with a different respective service provider (Garrett 0022); and

wherein, for each of the at least two VLANs associated with a different respective service provider and identified by an SID, the wireless access point is operable to maintain an association between the SID and a respective plurality of active subscribers of the associated service providers (Garrett 0022-0025).

- «Claim 288»

A network system, comprising:

a plurality of wireless access points coupled to a network, wherein each of the plurality of wireless access points is operable to communicate with a portable computing device in a wireless fashion (figure 2), wherein each of the plurality of wireless access points is configured to receive system identification information from the portable computing device including an identifier for a VLAN of a plurality of possible VLANs (column 6, lines 15-22);

wherein each of the plurality of access points is operable to determine the VLAN indicated by the system identification information (column 10, lines 14-19);

wherein each of the plurality of wireless access points is operable to provide network access to the portable computing device through the determined VLAN (column 10, lines 45-54);

wherein the plurality of access points are maintained by a first network service provider (Garrett 0022); and

wherein the system identification information indicates a second network service provider (Garrett 0022).

Since the combination of Meier and Garrett discloses all of the above limitations, claims 146- 177, 179-190, 192-210, 212-221,256-279, 285, and 287-302 are rejected.

11> Claim 191 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meier in view of Garrett, as applied above, further in view of IEEE Std 802.11-1997, hereinafter referred to as IEEE.

12> Meier and Garrett disclosed a VLAN-aware communications system that utilizes VLAN IDs and VLAN tagged frames. In an analogous art, IEEE discloses details of the 802.11 protocol including descriptions and uses for various service sets in communications systems. Meier's system is based on the IEEE 802.11 protocol.

13> Concerning these claims, Meier and Garrett did not explicitly state the use of an ESSID. However, the ESSID is explicitly stated by IEEE. Furthermore, Meier does explicitly utilize a BSSID, which is related to an ESSID, and since Meier bases his system on the 802.11 protocol, which defines the ESSID, it would be a clear extension of his system to utilize an ESSID. Thus, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Meier and Garrett by adding the

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ability to use an ESSID as provided by IEEE.

14> Thereby, the combination of Meier, Garrett, and IEEE discloses:

- «Claim 191»

The network system of claim 187, wherein each virtual access point of the plurality of virtual access points includes an Extended Service Set ID (ESSID), and wherein each ESSID corresponds to one of the plurality of possible VLANs (IEEE, sections 5.2 and 5.7, inter alia).

- Since the combination of Meier, Garrett, and IEEE discloses all of the above limitations, claim 191 is rejected.

15> Claim 211 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meier in view of Garrett, as applied above, further in view of Official Notice. Pursuant to MPEP 2144.03.C., since this claim was previously rejected over the combination of Meier, Garrett, and Official Notice, and since the applicant has not traversed the use of Official Notice, the subject matter is considered to be admitted prior art (APA). Therefore, claim 211 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meier in view of Garrett as applied above, further in view of APA.

16> The combination discloses:

- «Claim 211»

The method of claim 202, wherein the identification information comprises a digital

certificate (APA). The use of the digital certificate for security purposes in network communications was well known in the art at the time of the applicant's invention. Therefore, Official Notice was taken and the subject matter is considered APA. Since the combination of Meier, Garrett, and APA discloses all of the above limitations, claim 211 is rejected.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following art are directed to partitioning networks into VLANs for providers.

Hurren et al, U.S. Patent No. 6,788,681;

Short et al, U.S. Patent No. 7,197,556.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

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advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOHM CHANKONG whose telephone number is (571)272-3942. The examiner can normally be reached on Monday-Friday [8:30 AM to 4:30 PM].

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571.272.3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. C./
Primary Examiner, Art Unit 2152

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